



United States & CIMMYT

30 years of global partnership for food security and sustainable agriculture

- ◆ The U.S. government has supported CIMMYT's research to improve maize and wheat farming systems in the developing world since 1968. USAID has been the top donor to CIMMYT since 1970, and thus can rightly take credit for a major contribution to alleviating global hunger and poverty. More than 70% of the wheats grown in developing countries and more than 50% of improved maize varieties are based on CIMMYT's breeding materials. These improved varieties have fed an additional one billion people over the last 20 years.
- ◆ U.S. investments in CIMMYT's research are investments in international stability. Helping resource-poor farmers improves food security and drives economic growth. CIMMYT's work contributes to more affordable food for poor women and children in Africa, Asia, and Latin America and reduces the need for costly emergency assistance. As rural incomes grow, so do national economies, over the long run increasing the demand for other consumer goods and making these countries stronger clients for U.S. and international trade. No country has moved out of poverty without a strong agricultural sector, and CIMMYT's products provide the foundation for such a transition.
- ◆ Although CIMMYT research focuses directly on the needs of the developing world, the spillover benefits to U.S. farmers and consumers have been significant. By the early 1990s, about one-fifth of U.S. wheat area was planted to varieties based on CIMMYT's work, including virtually all of the California spring wheat crop. Between 1970 and 1993, the U.S. economy gained at least \$3.4 billion and as much as \$13.7 billion from the use of CIMMYT wheat varieties (depending on how benefits are calculated). Based on the total contribution to CIMMYT of \$70 million (1969-93), that represents a minimum return of 50:1 and a maximum of 190:1. These benefits translate into lower costs for U.S. farmers and make bread, pasta, and a host of other products cheaper for consumers.
- ◆ CIMMYT's contributions to U.S. maize production are harder to measure, but the Center collaborates with the leading private-sector seed companies engaged in maize research and seed production. Collaboration is particularly strong in the area of biotechnology applications for maize improvement.

- ◆ CIMMYT's work on genetic resistance to wheat diseases is an insurance policy against disaster for wheat farmers in the U.S. and throughout the world. CIMMYT has developed varieties that withstand two of the three "rust" diseases – the world's most devastating wheat diseases – and is working on the resistance to the third. As but one example, an outbreak of stripe rust in nonresistant wheat varieties cost Iranian farmers more than \$1 million in 1995 alone. Constant efforts to upgrade genetic resistance in the face of evolving disease strains is an important aspect of CIMMYT's work.
- ◆ By improving agricultural productivity in areas already being farmed, CIMMYT's research reduces poor farmers' need to cultivate new land, including the forests that shelter a wealth of diverse and rare species. To produce today's wheat crop with 1970 technology would require plowing an additional 100 million acres -- an area roughly the size of the state of California. Few other U.S. investments have so forcefully protected the havens of global biodiversity. CIMMYT also safeguards the genetic diversity of its two crops in its new, state-of-the-art maize and wheat gene bank. Research on bank holdings will yield the breakthroughs needed to feed the world's growing population in the 21st century.
- ◆ Direct links between CIMMYT and U.S. universities are numerous. In recent years, CIMMYT has collaborated with the following U.S. universities:

Clemson	Michigan State	U-California, Berkeley	University of Idaho
Colorado State	Oregon State	U-California, Davis	University of Kentucky
Cornell	Stanford	U-California, Riverside	University of Minnesota
Iowa State	Texas A&M	University of Florida	University of Nebraska
Mississippi State	Purdue University	University of Missouri	

- ◆ Examples of collaborative research with these institutions include: conservation of maize genetic resources (Cornell; Iowa State; University of Nebraska); genetic resistance in maize to insect pests (Cornell; Iowa State; Mississippi State; University of Missouri); a joint workshop and book on the emerging green revolution for maize in Africa (Michigan State); wheat breeding research (Oregon State); and a study of nitrogen fertilizer use in irrigated wheat systems and its environmental impact (Stanford; University of California, Berkeley). In 1995 alone, some \$500,000 was allocated to joint research by CIMMYT and U.S. universities.
- ◆ The most important recognition of CIMMYT's work came in the form of the Nobel Peace Prize granted to Dr. Norman Borlaug (U.S.) in 1970 for his research with the CIMMYT Wheat Program, leading to the "green revolution" in wheat. The "revolutionary" improvements in wheat yields in the 1960s have been maintained ever since — 1% increases in wheat yield have been made every year since 1970.
- ◆ More than 110 U.S. scientists and professional staff have worked at CIMMYT over the past 30 years, ranging from administrative staff to post-doctoral researchers to the Director General (four of CIMMYT's five Directors General have been U.S. citizens). At any given time, U.S. nationals have accounted for 20-30% of CIMMYT's staff. These people represent perhaps the strongest link of all between the U.S. and CIMMYT. CIMMYT benefits from the enormous scientific contributions of its U.S. staff. The U.S. in turn benefits when CIMMYT employees return to work in their home country, bringing with them a deep understanding of global problems in maize and wheat systems and the experience of working in the world's leading center of excellence on maize and wheat research.